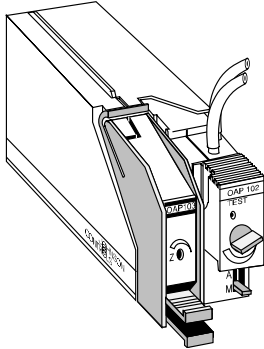


FM-OAP Series

Output Analog Pneumatic Function Module

**FM-OAP101/102/103**

Description

The Output Analog Pneumatic (OAP) Function Module converts an electrical control signal into a proportional pressure output signal to control a pneumatic field device.

Each field device requires the FM-OAP-102 (manual module) and either the FM-OAP101 or the FM-OAP103 (auto modules). Together these modules provide automatic or manual control of pneumatic field devices.

Features

- plug-in capability with Johnson Controls products speeds installation and ensures secure wiring connections, saving time and money
- the auto/manual switch provides added flexibility during installation, commissioning, troubleshooting, or electrical power outage
- the output pressure test port allows accurate pressure reading of the OAP's output, to speed installation, calibration, and troubleshooting

- the pressure output is held below low setpoint during power outage or pressure loss, creating controlled condition for resumption of power or pressure
- adjustable output range enhances the ability to customize calibration to field a device or other application requirements

Applications

The OAP Function Module is typically used to control pneumatic valve or damper actuators. The FM-OAP101/102 is designed for use with the Metasys® Network Controllers; the FM-OAP103/102 is designed for use with Application Specific Controllers.

To Order

Specify the code number from the following selection chart.

Selection Chart

Code Number	Description
FM-OAP101-0	OAP Automatic Function Module used with DCM Controllers
FM-OAP102-0	OAP Manual Function Module used with both the OAP101 and OAP103
FM-OAP103-0	OAP Automatic Function Module used with Application Specific Controllers

Note: Modules must be ordered together for application; however, both can be ordered separately for replacement.

Accessories

Code Number	Description
A-4000-137	Replacement Pneumatic Coalescing Oil Filter for OAP102
A-4000-1037	Replacement Pneumatic Coalescing Oil Filter for OAP102 (5/pkg.)
AS-FMK102-0	Function Module Kit

FM-OAP Series Output Analog Pneumatic Function Module (Continued)

Specifications

FM-AOP Output Analog Pneumatic Function Module	
Module	FM-OAP101 Automatic Module used with DCIMs
	FM-OAP102 Manual Module used with OAP101 and OAP103
	FM-OAP103 Automatic Module used with AHU and LCP Controllers
Output Range	<1 to >19 psig (<7 to >131 kPa) at 20 psig supply pressure
Output Limits	Minimum Output Flow 400 SCIM at 3 to 15 psig (R-2080 equivalent) (107 ml/second at 21 to 103 kPa)
Air Consumption	Maximum 50 SCIMs at 3 to 15 psig (13 ml/second at 21 to 103 kPa)
Input-Output Characteristics	Linear pressure output proportional to input value
Supply Pressure	Air Supply Pressure 20 psig (nominal) to 25 psig (maximum) (138 to 172 kPa)
Input Range	FM-OAP101 0 to 100% of adjusted zero and span
	FM-OAP103 0 to 20 mA from an ASC controller
Resolution	0.1% of full range
Accuracy	Maximum Linearity Error 2.5% of full scale in the 3 to 15 psig (21 to 103 kPa) range
	Maximum Hysteresis Error 2.5% in the 3 to 15 psig (21 to 103 kPa) range
	Supply Pressure Sensitivity 0.1 psig per 1 psig supply variation (typical) (0.1 kPa per 1 kPa supply variation)
Thermal Effects	Auto Mode 0.015 psig per °F (0.19 kPa per °C)
	Manual Mode 0.03 psig per °F (0.37 kPa per °C)
Calibration	FM-OAP101 Non-Interactive Zero / Offset can be adjusted up to 14 psig (97 kPa)
	Adjustments Span can be adjusted from 6 psig (41 kPa) to 14 psig (96 kPa)
	FM-OAP103 Adjustment Midpoint can be adjusted from 3 to 15 psig
Default Condition	Output pressure set to 0 psig (0 kPa) on loss of supply pressure
	Output pressure set to less than minimum operating range pressure on electrical power outage
Source Power	FM-OAP101 Power is from the NCU/NEU
	FM-OAP103 Power is from a 2-wire current loop; control signal = 0 to 20 mA; maximum resistance = 375 ohms; input impedance = 340 ohms ±10%
Operating Environmental Requirements	40 to 122°F (4.4 to 50°C); 10 to 90% non-condensing relative humidity; 86°F (30°C) maximum dew point
Storage/Shipping Environmental Requirements	-20 to 140°F (-29 to 60°C)
	5 to 95% non-condensing relative humidity
	86°F (30°C) maximum dew point
Dimensions (H x W x D)	1.7 x 2.6 x 7.0 in. (43 x 66 x 178 mm)
Shipping Weight	1.25 lb. (0.56 kg)
Agency Compliance	FCC Part 15 Subpart J - Class A, UL 916, UL864, CSA C22.2 No. 205